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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/784,273

02/24/2004

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25944 7590 05/28/2008

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EXAMINER

LIU, ERIC

ART UNIT

PAPER NUMBER

3628

MAIL DATE

DELIVERY MODE

05/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/784,273	<b>Applicant(s)</b> OBAYASHI ET AL.	
	<b>Examiner</b> Eric Liou	<b>Art Unit</b> 3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 27-43 is/are pending in the application.
- 4a) Of the above claim(s) 42 and 43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Species I (claims 27-41) in the reply filed on 3/5/08 is acknowledged. The traversal is on the ground(s) that the search and examination of the entire application could be made without serious burden. This is not found persuasive because species I (claims 27-41) is drawn to adjusting a power supply distribution of a plurality of power sources and species II (claims 42-43) is drawn specifically to adjusting a discharge of the onboard battery. These two species are distinct and the search and examination of the entire application would be a serious burden.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 42-43 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

3. This application contains claims 42-43 drawn to an invention nonelected with traverse. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Response to Arguments***

4. Applicant's arguments with respect to claim 27 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 27-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 27 recites the limitation, "...wherein the adjusting is based on the information and performed by prioritizing a power supply from one of the plurality of power sources, the one which has a low power generation cost." The phrase "low power generation cost" renders the claim indefinite because it is possible for all of the power sources to have the same power generation cost. In this case, it is unclear how one can prioritize the power sources. The Examiner interprets "low power generation cost" to be the lowest power generation cost of the plurality of power sources.

8. Claim 31 recites the phrase, "low power generation cost". It is unclear how one can prioritize the power sources if each power source has the same power generation cost. The Examiner interprets "low power generation cost" to be the lowest power generation cost of the plurality of power sources.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 27-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Fussey et al., U.S. Publication No. 2004/0074682.

11. **As per claim 27**, Fussey teaches a method for controlling a vehicular electric system having a plurality of power sources that supplies power to an onboard electrical load and an onboard battery, wherein the plurality of power sources includes a generator driven by an engine of a vehicle (Fussey: paragraphs 0002), the method comprising:

obtaining and processing information on a power generation cost that is a cost of generating unit power by each power source (Fussey: Fig. 2; paragraphs 0006; 0012; 0032; 0039); and

adjusting a power supply distribution of the plurality of power sources and a receiving power rate of the onboard electrical load or the onboard battery in such a manner that a consumed power cost is reduced, wherein the adjusting is based on the information and performed by prioritizing a power supply from one of the plurality of power sources, the one which has a low power generation cost (Fussey: paragraphs 0029-0031; 0038-0039; 0042-0043; 0050).

12. **As per claim 28**, Fussey further teaches the adjusting power supply distribution of the plurality of power sources and the receiving power rate of the onboard electrical load or the onboard battery in such a manner that the consumed power cost is reduced is performed based on the power generation cost of each power source and available power supply from each power source (Fussey: paragraphs 0029-0031; 0038-0039; 0042-0043; 0050).

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13. **As per claim 29**, Fussey further teaches controlling a power generation of each power source based on the power supply distribution (Fussey: paragraphs 0029-0031; 0038-0039; 0042-0043; 0050); and outputting an instruction signal to a device that supplies power to the plurality of power sources for controlling an output of the device based on the power supply distribution (Fussey: paragraphs 0029-0031; 0038-0039; 0042-0043; 0050).
14. **As per claim 30**, Fussey further teaches determining the power supply distribution of the plurality of power sources to the onboard battery based on the information (Fussey: paragraphs 0002; 0012-0018).
15. **As per claim 31**, Fussey further teaches the power supply from the one of the plurality of power sources, the one which has the low power generation cost, is prioritized when the onboard battery is charged (Fussey: paragraphs 0002; 0012).
16. **As per claim 32**, Fussey further teaches the plurality of power sources include an engine of a hybrid vehicle and a regenerative braking system (Fussey: paragraphs 0002; 0029; 0035).
17. **As per claim 33**, Fussey further teaches the power supply of regenerative electric power supplied by the regenerative braking system is prioritized when the onboard battery is charged (Fussey: paragraph 0035).
18. **As per claim 34**, Fussey further teaches adjusting the power supply distribution for supplying power to the onboard battery is performed in accordance with a difference between the power generation cost of the onboard battery as one of the power sources and the power generation cost of another power source that supplies power to the onboard battery (Fussey: paragraphs 0002; 0006; 0012; 0029-0031).

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19. **As per claim 35**, Fussey further teaches the adjusting the power supply distribution for supplying power to the onboard battery is performed based on the difference between the costs and a state of charge of the onboard battery (Fussey: paragraphs 0003; 0006; 0012; 0029; 0040).

20. **As per claim 36**, Fussey further teaches the state of charge of the onboard battery is determined using an amount of power charged in the onboard battery and a variation in the amount of power (Fussey: paragraphs 0029; 0040; 0042).

21. **As per claim 37**, Fussey further teaches calculating and preferentially distributing a part of power supplied from the power sources to the electrical load (Fussey: paragraphs 0002; 0029); and calculating and distributing the other part of power to the onboard battery, the other part supplied from the power sources after the distribution to the electrical loads (Fussey: paragraph 0002).

### ***Claim Rejections - 35 USC § 103***

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fussey et al., U.S. Publication No. 2004/007468 in view of Severinsky et al., U.S. Patent No. 6,554,088.

24. **As per claim 38**, Fussey does not explicitly teach transferring power between the vehicle electric system and another vehicle electric system in such a manner that voltage of the another

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vehicle electric system is converted to voltage of the vehicle electric system, wherein the voltage of the another vehicle electric system is different from the voltage of the vehicle electric system.

25. Severinsky teaches transferring power between the vehicle electric system and another vehicle electric system in such a manner that voltage of the another vehicle electric system is converted to voltage of the vehicle electric system, wherein the voltage of the another vehicle electric system is different from the voltage of the vehicle electric system (Severinsky: col. 34, lines 51-67 – col. 35, lines 1-4).

26. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Fussey to have included transferring power between the vehicle electric system and another vehicle electric system in such a manner that voltage of the another vehicle electric system is converted to voltage of the vehicle electric system, wherein the voltage of the another vehicle electric system is different from the voltage of the vehicle electric system as taught by Severinsky for the advantage of allowing for the transfer of voltage between two vehicles.

27. Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fussey et al., U.S. Publication No. 2004/0074682 in view of Shioiri et al., U.S. Patent No. 6,201,312.

28. **As per claim 39**, Fussey teaches obtaining the information concerning a power generation cost of the generator driven by the engine of the vehicle (Fussey: paragraphs 0006; 0012; 0037-0039). Fussey does not explicitly teach a cost based on engine efficiency at an engine operating point.



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29. Shioiri teaches a cost based on engine efficiency at an engine operating point (Shioiri: Figs. 10 and 11; col. 3, lines 1-37; col. 10, lines 27-55)

30. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Fussey to have included a cost based on engine efficiency at an engine operating point as taught by Shioiri for the advantage of determining the optimum setting for the engine that will minimize the fuel consumption of the hybrid car.

31. **As per claim 40**, Fussey does not explicitly teach correcting the power generation cost based on information of generator efficiency.

32. Shioiri teaches correcting the power generation cost based on information of generator efficiency (Shioiri: col. 2, lines 60-63; col. 11, lines 12-16; The energy efficiency of the car is improved. Thus, the fuel economy is improved and the power generation cost is reduced.).

33. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Fussey in view of Shioiri to have included correcting the power generation cost based on information of generator efficiency as taught by Shioiri for the advantage of determining the optimum setting for the engine that will minimize the fuel consumption of the hybrid car.

34. **As per claim 41**, Fussey further teaches the power generation cost of the generator driven by the engine of the vehicle is determined based on an increase in consumed fuel for driving the engine due to the power generation (Fussey: paragraphs 0006; 0012; 0013; 0017).

***Conclusion***

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Brigham et al., U.S. Patent No. 5,820,172
- b. Winstead, U.S. Patent No. 6,335,610

36. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The Examiner has cited particular portions of the references as applied to the claims above for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the Applicant, in preparing the responses, fully consider the references in entirety as potentially teaching all or

part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Liou whose telephone number is (571)270-1359. The examiner can normally be reached on Monday - Friday, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric Liou/  
Examiner, Art Unit 3628

/JOHN W HAYES/  
Supervisory Patent Examiner, Art Unit 3628

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